



ASTM INTERNATIONAL
Helping our world work better

Guidance on Robot Operator Certification

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Touching Every Part of Everyday Life



Introduction

- 12,636 ASTM standards operate globally
- Combined with our innovative business services they enhance performance and create confidence
- Across borders, disciplines, and industries
- Harnessing the expertise of over 30,000 members
- Across manufacturing and materials, products and processes, systems and services
- Global cooperation
- Value added services – Certification, Training and Proficiency Testing
- Touching every part of everyday life: helping our world work better



ASTM Technical Committee E54



Homeland Security Applications

- Formed in 2003
- Currently 357 members
- Including representatives from:
 - Manufacturers
 - Users
 - Federal Agencies (DHS, NIST, NIJ)
 - Academic Institutions

Model approach of partnering between Federal Government and ASTM to develop consensus based standards

ASTM Technical Committee E54



Suite of test methods for evaluating response robot capabilities for mobility in:

- Gaps
- Hurdles
- Inclined Planes
- Stairs/Landings
- Continuous and Cross Pitch/Roll Ramps

Additional Work Items being added to this suite...



Our Vision

How can we use the government/industry developed standards to develop a framework of replicable programs that lead to confidence in the robots and operators?

ASTM will continue to work with federal agencies and industry groups to develop programs to evaluate:

1. Test Facilities
2. Robots
3. Operators



Test Facility Evaluation

Develop an evaluation program for robot testing at test facilities based on the ASTM standards to ensure consistency between other facilities by:

- Following guidelines for constructing test facilities
- Following the ASTM test methods
- Utilizing an open inter-laboratory comparison program
- Data-driven approach including repeatability and reproducibility
- Publication of results by ASTM



Robot Testing

Program for robot operators to utilize “tested” robots against ASTM Test Methods by:

- Mission specific (user) defined testing thresholds (selection of ASTM Test Methods)
- Expert operator to assist with defining robot thresholds
- Performed at test facilities (who participate in inter-laboratory comparison program)
- Publication of test results by ASTM

Personnel Certification

- Mission specific organizations (users) develop thresholds for defining certifications using evaluated test facilities and robots
- Potentially develop in partnership with NFPA





Potential Plan, Timeline, and Action

- Q1 2016
 - Gather stakeholder feedback
 - Develop task groups for each program
- Q2 & Q3 2016
 - Define requirements for each program
- Q4 2016
 - Launch test facility evaluation
- Q1 2017
 - Robot testing launch
- 2017
 - Personnel certification program launch



Thank you!

For feedback or to assist in this effort please contact...

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